IN THE CLAIMS

Please amend claims 1-2, 7-11, 14, 18-25, 28 and cancel claims 3, 6, 16-17 as follows:

1. (Previously Amended) A method for signal-conditioning utilizing a signal-conditioning circuit, said method comprising the steps of:

applying a first voltage to a positive ~~an offset correction voltage to a noninverting~~ input of an amplifier of an InSb ~~said~~ signal-conditioning circuit, wherein said first voltage is offset from a second voltage, wherein said first and second voltages together comprise an input voltage that is input to said InSb signal-conditioning circuit; and

applying a magnetoresistor half-bridge signal to a negative ~~an inverting~~ input of said amplifier of said InSb signal-conditioning circuit, wherein said first ~~offset correction~~ voltage at said positive ~~noninverting~~ input drives an output voltage generated by ~~of~~ said InSB signal-conditioning circuit to a value equivalent to that of said first ~~an input~~ voltage, which is divided by a value of two, thereby generating a resulting voltage value, which is utilized to automatically calibrate said magnetoresistive half-bridge signal for temperature compensation purposes.

2. (Currently Amended) The method of claim 1 wherein said input voltage comprise said first voltage and said second voltage comprises at least one supply voltage ~~further comprising the step of:~~

~~configuring said signal-conditioning circuit to comprise an InSb signal-conditioning circuit~~.

3. (Cancelled)

4. (Previously Amended) The method of claim 1 further comprising the step of:

generating said magnetoresistor half-bridge signal utilizing at least one magnetoresistor.

5. (Previously Amended) The method of claim 1 further comprising the step of:

generating said magnetoresistor half-bridge signal utilizing a plurality of magnetoresistors.

6. (Cancelled)

7. (Currently Amended) The method of claim 1 further comprising the step of:

coupling a first magnetoresistor to a second magnetoresistor at a first node, wherein said first magnetoresistor is coupled to a supply voltage and said second magnetoresistor is coupled to a ground, wherein said supply voltage is equivalent to said first voltage, said second voltage or an electrical equivalent thereof.

8. (Currently Amended) The method of claim 7 further comprising the step of:

coupling a first resistor coupled to a second resistor at a second node, wherein said first resistor is coupled to said supply voltage and said second resistor is coupled to said ground, such that said second node is coupled to said ~~a~~ positive input of said amplifier.

9. (Currently Amended) The method of claim 8 further comprising the step of:

configuring said InSb signal-conditioning circuit to comprise a third resistor coupled to said first node and to a third node, wherein said third node is connected to a negative input of said amplifier.

10. (Currently Amended) The method of claim 9 further comprising the step of:

configuring said InSb signal-conditioning circuit to comprise a fourth resistor coupled to said third node and to an output of said amplifier, wherein said output voltage is provided at said output of said amplifier.

11. (Currently Amended) The method of claim 1 further comprising the step of:

configuring said InSb signal-conditioning circuit to comprise at least one magnetoresistor in series with at least one resistor connected to said negative ~~an inverting~~ input of an amplifier of said InSb signal-conditioning circuit;

wherein said at least one magnetoresistor comprises an InSb magnetoresistor that exhibits a negative scale factor temperature coefficient; and

wherein at least one magnet of said InSb signal-conditioning circuit exhibits a negative scale factor temperature coefficient to thereby permit a gain of said amplifier to increase.

12. (Previously Amended) The method of claim 11 further comprising the step of:

configuring said at least one resistor to comprise a fixed temperature coefficient resistor.

13. (Previously Amended) The method of claim 12 further comprising the step of:

choosing said fixed temperature coefficient resistor in series with said at least one magnetoresistor to thereby obtain a flat resultant temperature coefficient thereof dependent upon said fixed temperature coefficient resistor.

14. (Currently Amended) A method for signal-conditioning utilizing a signal-conditioning circuit, said method comprising the step of:

applying a first ~~an offset correction~~ voltage to a positive ~~noninverting~~ input of an amplifier of an InSb ~~a~~ signal-conditioning circuit, wherein said first voltage is electrically offset from a second voltage input to said InSb signal-condition circuit at a negative input of said amplifier, such that said first and second voltages electrically comprise an input voltage that is input to said InSb signal-conditioning circuit;

applying a magnetoresistor half-bridge signal to said negative ~~an inverting~~ input of said amplifier of said InSb signal-conditioning circuit, wherein said first ~~offset correction~~ voltage at said positive ~~noninverting~~ input drives an output voltage of said signal-conditioning circuit to a value electrically equivalent to said first ~~an input~~ voltage, which is divided by a value of two, thereby generating a resulting voltage value, which is utilized to automatically calibrate said magnetoresistive half-bridge signal for temperature compensation purposes;

configuring said InSb signal-conditioning circuit to comprise at least one magnetoresistor in series with at least one resistor connected to said negative ~~located in an inverting~~ input of said ~~an~~ amplifier associated with said InSb signal-conditioning circuit;

wherein said at least one magnetoresistor exhibits a negative scale factor temperature coefficient; and

wherein an associated magnet exhibits a negative scale factor temperature coefficient to thereby permit a gain of said amplifier to increase with temperature.

15. (Previously Amended) A system for signal-conditioning utilizing a signal-conditioning circuit, said system comprising:

a first ~~an offset correction~~ voltage applied to a positive ~~noninverting~~ input of an amplifier of an InSb ~~a~~ signal-conditioning circuit, wherein said first voltage is offset from a second voltage input to a negative input of said amplifier and wherein said first and second voltages comprise an input voltage input to said InSb signal-condition circuit;

a magnetoresistor half-bridge signal applied to a negative ~~an inverting~~ input of said InSb signal-conditioning circuit, wherein said first ~~offset correction~~ voltage at said positive ~~non-inverting~~ input drives an output voltage of said InSb signal-conditioning circuit to a value electrically equivalent to said first ~~an input~~ voltage, which is divided by a value of two, thereby generating a resulting voltage value, which is utilized to automatically calibrate said magnetoresistive half-bridge signal for temperature compensation purposes.

16. (Cancelled)

17. (Cancelled)

18. (Currently Amended) The system of claim 15 wherein said magnetoresistor half-bridge signal is generated utilizing at least one magnetoresistor configured within said InSb signal-conditioning circuit.

19. (Currently Amended) The system of claim 15 wherein said magnetoresistor half-bridge signal is generated utilizing a plurality of magnetoresistors configured within said InSb signal-conditioning circuit.

20. (Currently Amended) The system of claim 15 wherein at least two magnetoresistors are connected to one another at a first node and at least two other magnetoresistors to one another at a second node, wherein said second node is connected to said ~~a~~ positive input of said amplifier of said InSb signal-conditioning circuit.

21. (Currently Amended) The system of claim 15 wherein said InSb signal-conditioning circuit comprises a first magnetoresistor coupled to a second magnetoresistor at a first node, wherein said first magnetoresistor is coupled to a supply voltage comprising said first voltage, said second voltage or a combination thereof and said second magnetoresistor is coupled to a ground.

22. (Currently Amended) The system of claim 21 wherein said InSb signal-conditioning circuit comprises a first resistor coupled to a second resistor at a second node, wherein said first resistor is coupled to said supply voltage and said second resistor is coupled to said ground, such that said second node is coupled to said ~~a~~ positive input of said amplifier.

23. (Currently Amended) The system ~~method~~ of claim 22 wherein said InSb signal-conditioning circuit comprises a third resistor coupled to said first node and to a third node, wherein said third node is connected to said ~~a~~ negative input of said amplifier.

24. (Currently Amended) The system of claim 23 wherein said InSb signal-conditioning circuit comprises a fourth resistor coupled to said third node and to an output of said amplifier.

25. (Currently Amended) The system of claim 15 wherein:

said InSb signal-conditioning circuit comprises at least one magnetoresistor in series with at least one resistor located at said negative ~~in an~~ inverting input of said ~~an~~ amplifier associated with said signal-conditioning circuit;

wherein said at least one magnetoresistor comprises an InSb that exhibits a negative scale factor temperature coefficient; and

wherein an associated magnet exhibits a negative scale factor temperature coefficient to thereby permit a gain of said amplifier to increase with temperature.

26. (Original) The system of claim 25 wherein said at least one resistor comprises a fixed temperature coefficient resistor.

27. (Previously Amended) The system of claim 26 wherein said fixed temperature coefficient resistor is chosen in series with said at least one magnetoresistor to thereby obtain a flat resultant scale factor temperature coefficient thereof dependent upon said fixed temperature coefficient resistor.

28. (Currently Amended) A system for signal-conditioning utilizing a signal-conditioning circuit, said system comprising:

an InSb signal-conditioning circuit in which a first ~~an offset correction~~ voltage is applied to a positive ~~noninverting~~ input of an amplifier associated with said InSb ~~a~~ signal-conditioning circuit, wherein said first voltage is offset electrically from a second voltage, such that said first and second voltages comprise an input voltage input to said InSb signal-conditioning circuit;

a magnetoresistor half-bridge signal applied to a negative ~~an inverting~~ input of said InSb signal-conditioning circuit, in order to electronically compensate said first voltage input at said positive input of said amplifier, thereby producing a compensated voltage that drives

~~a voltage electronically compensated at said noninverting input, wherein a resulting compensated voltage drives~~ an output voltage of said InSb signal-conditioning circuit to a ~~an input~~ voltage value that is divided by a value of two during a calibration thereof;

wherein said signal-conditioning circuit is configured to comprise at least one magnetoresistor in series with at least one resistor connected to said negative ~~an inverting~~ input of said ~~an~~ amplifier of said InSb signal-conditioning circuit;

wherein said at least one magnetoresistor exhibits a negative scale factor temperature coefficient; and

wherein at least one magnet of said InSb signal-conditioning circuit exhibits a negative scale factor temperature coefficient to thereby permit a gain of said amplifier to increase with temperature.

29. (Previously Cancelled)